Notice of Allowability	Application No.	Applicant(s)	
	09/877,921	MORIARTY ET AL.	
	Examiner	Art Unit	
	Tuan N. Nguyen	2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *07/06/2004*.

2. ☒ The allowed claim(s) is/are *20-25 and 27-29*.

3. ☒ The drawings filed on *10 October 2002* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 07/06/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date ~~2/9/05~~. 2/17/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below, to the amended claims 25-29 should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no latter than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jessica Smith (Attorney for Applicant, Reg. No. 39,882) on 02/17/2005.

25. (Currently Amended) An optical transmitter, comprising:

a laser diode with an output signal;

a power control circuit for controlling an adjustable bias current to the laser diode in response to the laser diode power output and a power reference voltage input; and

a temperature control circuit that provides a temperature control signal to a thermoelectric element for controlling temperature operation and wavelength compensation of the laser diode that comprises:

a temperature reference voltage input;

a temperature monitor loop including a temperature sensor for monitoring temperature operation and providing a temperature monitor signal;

a wavelength compensation signal added to the temperature monitor signal to provide a wavelength control signal, wherein the wavelength compensation signal is based on a wavelength of the output light signal of the laser diode and is generated by an etalon locker ~~a feedback~~ device that receives the output light signal emitted from the laser diode and outputs the wavelength compensation signal based upon the wavelength of the output light signal;

an operational amplifier for controlling the wavelength of the output light signal of the laser diode with a first input connected to the temperature reference voltage input and a second input connected to the wavelength control signal and an output for generating the temperature control signal, such that ~~wherein~~ the temperature control circuit adjusts the temperature control signal to the thermoelectric element responsive to a difference between the temperature reference voltage input and the wavelength control signal.

26. (Canceled) Please cancel claim 26.

27. (Currently Amended) The optical transmitter of claim 25 ~~26~~, wherein the etalon locker device is a Fabry-Perot etalon locker device.

28. (Currently Amended) The optical transmitter of claim 25, wherein the power control circuit for controlling an adjustable bias current to the laser diode in response to the laser diode power output and a power reference voltage input comprises:

a bias current source that provides an adjustable bias current to the laser diode and comprising the ~~a~~ power reference voltage input; and

a power monitor loop comprising a backface diode for monitoring the laser diode power output and outputting a power monitor signal.

29. (Currently Amended) The optical transmitter of claim 28, wherein the bias current source that provides an adjustable bias current to the laser diode and comprising the ~~a~~ power reference voltage input comprises:

an operational amplifier with the power reference voltage input as a first input and the power monitor signal as a second input; and

a transistor wherein an output of the operational amplifier is connected to a gate of the transistor, a reference voltage is connected to an input of the transistor and wherein the output of the transistor is connected to the laser diode and provides the adjustable bias current to the laser diode.

REASON FOR ALLOWANCE

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance - Applicant's response filed on 12/15/2004 has been considered, with respect to claims 1, 8, and 10, the references of the record fail to teach or suggest:

Claims 20, 22:

A control circuit for laser diode comprising: a power control circuit controlling adjustable bias current to the laser diode that includes a bias current source, a power monitor loop, and a power control signal combined with the power monitor signal a power adjust signal, wherein the bias current source adjust the bias current responsive to a difference between the power reference voltage input and the power adjust signal; and a temperature control circuit provides control current to thermoelectric element includes a temperature reference voltage input, a temperature monitor loop including a temperature sensor, and a wavelength compensation signal combined with the temperature monitor signal to provide a wavelength control signal, wherein the wavelength compensation signal is proportional to the power control signal; wherein the temperature control circuit adjust the control current to the thermoelectric element responsive to a difference between the temperature reference voltage and the wavelength control signal to help maintain operation of the laser diode around a nominal operating wavelength.

Claim 25:

An optical transmitter comprising a laser diode, a power control circuit controlling adjustable bias current to the laser diode in response to the laser diode power output and a power reference voltage input; and a temperature control circuit provides signal to thermoelectric element for controlling temperature operation and wavelength compensation of the laser diode comprises a temperature reference, a temperature monitor loop including temperature sensor providing temperature monitor signal, a wavelength compensation signal added to the temperature monitor signal to provide a wavelength control signal, wherein the wavelength compensation is based on the output light of laser diode and is generated by an etalon locker that

receives the output light signal emitted from the laser diode and outputs the wavelength compensation signal based upon the wavelength of the output light signal; an operational amplifier for controlling the wavelength of the output light of laser diode with first input connected to temperature reference voltage and a second input connected to the wavelength control signal and an output for generating the temperature control signal such that the temperature control circuit adjusts the thermoelectric element responsive to a difference between the temperature reference and the wavelength control signal.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (703) 308-16741. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be

obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen